

Ethnobotanical Studies of Medicinal Plants used by Tribal Communities in Uttar Baster, Chhattisgarh, India

Dipanyita Bala

Department of Botany, Kalinga University Kotni, Nava Raipur, Chhattisgarh, India

[*baladipanyita@gmail.com](mailto:baladipanyita@gmail.com)



<https://doi.org/10.55041/ijstmt.v2i3.012>

Cite this Article: Bala, D. (2026). Ethnobotanical Studies of Medicinal Plants used by Tribal Communities in Uttar Baster, Chhattisgarh, India. International Journal of Science, Strategic Management and Technology, 02(03). <https://doi.org/10.55041/ijstmt.v2i3.012>

License:  This article is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting use, distribution, and reproduction in any medium, provided the original author(s) and source are properly credited.

ABSTRACT

Chhattisgarh is one of the forest rich state of India, with nearly 44% of its geographical area under forest cover. The present investigation focuses on the ethnomedicinal plant diversity of the Uttar Bastar region, particularly the Paralkot area of Kanker district, which forms part of a continuous forest landscape adjoining the Abujhmadh forests. The region represents an ecologically rich yet comparatively unexplored zone of Central India.

Ethnomedicinal information was gathered through field surveys, interaction with local tribe communities and interviews with traditional healers. The survey led to the documentation of 50 medicinal plant species belonging to 29 families. Fabaceae showed maximum representation among the recorded families, while herbs constituted the dominant life form. Leaves were identified as the most frequently utilized plant part in traditional remedies.

The documented species are commonly used for treating ailments such as fever, dysentery, jaundice, snake bite, kidney disorders, skin infection, digestive problems and their common diseases. Due to limited accessibility to modern healthcare facilities, local communities continue to rely significantly on plant based traditional medicine for primary healthcare needs. The study emphasizes the importance of systematic documentation, conservation and sustainable utilization of ethnomedicinal plant resources.

KEYWORDS: Ethnomedicinal plants, Tribal communities, Uttar Bastar, Traditional healthcare, Medicinal flora.

INTRODUCTION

Ethnomedicinal knowledge represents an integral component of traditional healthcare systems, particularly among indigenous and tribal communities who rely heavily on locally available biological resources for their primary healthcare needs. India, being one of the world's mega biodiversity countries, harbors a vast diversity of medicinal plant species along with rich traditional knowledge systems that have been practiced and transmitted orally across generations. Despite these richness, much of the indigenous ethnomedicinal knowledge remains undocumented, especially in remote and forest dominated regions.

The state of Chhattisgarh, located in Central India, is well known for its extensive forest cover and high concentration of tribal populations. Among its forested landscapes, the Uttar Bastar region holds significant ecological and cultural importance. The area is characterized by dense forests, diverse flora, and the presence of several indigenous communities who maintain a close relationship with their surrounding natural environment. For generations, these communities have depended on forest resources not only for food and shelter but also for traditional plant-based healthcare practices.

Paralkot situated in the Uttar Bastar region, represents a relatively less explored ethnobotanical landscape. The region includes forest-fringed tribal villages, many of which remain geographically isolated and lack access to modern healthcare facilities. As a result, local inhabitants continue to rely predominantly on traditional medicinal plants and indigenous healing practices for treatment of common ailments. The documented medicinal species include both wild forest plants and plants maintained near household or village surroundings, reflecting adaptive and easily accessible traditional healthcare practices. Knowledge related to identification of medicinal plants, part used, preparation methods, and modes of administration is often preserved by elderly community members, traditional healers, and local vaidyas.

However, systematic scientific documentation of ethnomedicinal plants from this region has remained limited. Several factors have contributed to this gap, including difficult terrain, limited accessibility, and prolonged socio-political disturbances in the surrounding forest areas, which historically restricted field-based research activities. Field observation in the present study therefore prioritized accessible forest fringes and community-management landscapes, ensuring researcher safety while minimizing ecological disturbance.

In recent years, rapid socio-economic changes, modernization, and increasing external influences have begun to impact traditional lifestyles and knowledge transmission systems within tribal communities. Younger generations are gradually moving away from indigenous practices, leading to the gradual erosion of orally transmitted ethnomedicinal knowledge.

The loss of such knowledge not only threatens cultural heritage but also limits opportunities for future pharmacological and conservation-oriented research.

Ethnomedicinal studies play a crucial role in bridging traditional knowledge systems with modern scientific research. Documentation of medicinal plants used by indigenous communities provides baseline data for biodiversity conservation, sustainable resource management, and the identification of potential plant-based therapeutic agents. Moreover, region-specific ethnomedicinal studies are essential, as medicinal plant usage often varies across geographical areas depending on plant availability, cultural beliefs and local disease patterns.

Considering the limited availability of published data from the Paralkot region and adjoining forest areas of Uttar Bastar, the present study aims to engage local tribal communities. The study emphasizes plant diversity, traditional uses, and the role of indigenous knowledge in primary healthcare practices. By systematically recording ethnomedicinal information through field surveys and interactions with local inhabitants and traditional healers, this research seeks to contribute to the preservation of traditional knowledge and provide a foundation for future ethnobotanical, pharmacological, and conservation-based studies.

MATERIALS AND METHODS

The present ethnomedicinal study was conducted in selected villages of the Paralkot region, Uttar Bastar, Kanker district, Chhattisgarh, India. The area is characterized by tropical deciduous forests and is predominantly inhabited by tribal communities who rely on plant-based traditional healthcare practices.

Field surveys were carried out between January and February 2026. Multiple visits were made to ensure systematic documentation and verification of collected information.

Ethnomedicinal information was collected from 10 informants, including elderly villagers and local traditional healers. The age of informants ranged from 40-60 years, as individual within this group were found to possess considerable traditional knowledge.

Medicinal plant species were documented during field visits in accessible forest areas and village surroundings. Photographs of the recorded plants were taken for reference and identification purposes.

Preliminary identification was carried out based on morphological characteristics and local nomenclature. Scientific names were verified using publicly accessible and

authenticated botanical databases such as Plants Of The World Online(POWO) and other standard taxonomic resources. The identified species were arranged alphabetically along with their respective families.

The collected data were organized and analyzed descriptively to determine species diversity, dominant plant families, commonly used plant parts, and frequently treated ailments.

RESULTS AND ANALYSIS

The present study recorded 50 ethnomedicinal plant species belonging to 29 families from the Uttar Bastar region, indicating considerable plant diversity and traditional knowledge richness. Among the recorded families, Fabaceae was found to be the dominant family

with the highest number of species followed by Acanthaceae, Combretaceae, Solanaceae, and Apocynaceae. The dominance of Fabaceae reflects its wide distribution and ethnomedicinal importance in the region.

Habit wise analysis revealed that herbs constituted the large proportion of documented species, followed by trees, shrubs and climbers. The predominance of herbaceous plants

suggests their easy availability, rapid growth and frequent use in traditional remedies. Trees also formed a significant component of the documented flora, indicating the dependence of local communities on forest resources.

Analysis of plant part used showed that leaves were the most frequently utilized plant parts, followed by roots, fruits, seeds and bark. In some species, whole plants, latex and resin were also used. The preference for leaves may be attributed to their easy

accessibility, higher concentration of bioactive compounds and sustainable harvesting compared to destructive collection of roots or bark.

The documented plant species were primarily used for the treatment of common ailments such as fever, cough, dysentery, skin diseases, digestive disorders, diabetes, urinary

problems, joint pain and general weakness. The findings highlight the rich traditional

knowledge of medicinal plants in such area and emphasize the importance of conserving both plant diversity and indigenous knowledge systems.

S.No	Botanical name	Local name	Family	Habit	Part used	Major use
1	<i>Abrus precatorius</i>	Gunja	Fabaceae	climber	Leaf/seed	Skin diseases
2	<i>Acorus calamus</i>	Vekhanda	Acoraceae	herb	Rhizome	Cough/Digestion
3	<i>Aegle marmelos</i>	Bael	Rutaceae	tree	Fruit/leaf	Diarrhea
4	<i>Aloe vera</i>	Kumari	Asphodelaceae	herb	Leafgel	Wound, burns
5	<i>Andrographis paniculata</i>	Kalmegh	Acanthaceae	herb	Leaf	Fever
6	<i>Argemone mexicana</i>	Satyanashi	Papaveraceae	herb	Latex	Skin diseases
7	<i>Asparagus racemosus</i>	Satavar	Asparagaceae	climber	Root	Female disorders
8	<i>Azadirachta indica</i>	Neem	Meliaceae	tree	Leaf/Bark	Skin infection
9	<i>Bacopa monnieri</i>	Brahmi	Plantaginaceae	herb	Whole plant	Memory
10	<i>Bauhinia variegata</i>	Kachnar	Fabaceae	tree	Bark/Flower	Thyroid/ulcer
11	<i>Boerhavia diffusa</i>	Punarnava	Nyctaginaceae	herb	Root	Kidney disorders
12	<i>Bryophyllum pinnatum</i>	Patharchatta	Crassulaceae	herb	Leaf	Kidney stone
13	<i>Buteamonosperma</i>	Palash	Fabaceae	tree	Flower	Worminfection
14	<i>Calotropis gigantea</i>	Aak	Apocynaceae	shrub	Latex/Leaf	Joint pain
15	<i>Centella asiatica</i>	Thankuni	Apiaceae	Herb	Whole plant	Memory
16	<i>Chlorophytum borivilianum</i>	Safed musli	Asparagaceae	Herb	Root	Weakness
17	<i>Cissus quadrangularis</i>	Hadjod	Vitaceae	Climber	Stem	Bone fracture
18	<i>Convolvulus pluricaulis</i>	Shankhpushpi	Convolvulaceae	Herb	Whole plant	Brain tonic
19	<i>Cyperus rotundus</i>	Nagarmotha	Cyperaceae	Herb	Rhizome	Fever
20	<i>Datura metel</i>	Datura	Solanaceae	Shrub	Leaf/Seed	Asthma
21	<i>Eclipta prostrata</i>	Bhringraj	Asteraceae	Herb	Leaf	Hair growth
22	<i>Hemidesmus indicus</i>	Anantmul	Apocynaceae	Climber	Root	Blood purifier
23	<i>Hygrophilia auriculata</i>	Kulekhara	Acanthaceae	Herb	Leaf	Anemia
24	<i>Justica adhatoda</i>	Vasaka	Acanthaceae	Shrub	Leaf	Cough
25	<i>Madhuca longifolia</i>	Mahua	Sapotaceae	Tree	Flower	Energy tonic
26	<i>Mimosa pudica</i>	Lajjalu	Fabaceae	Herb	Root/Leaf	Piles
27	<i>Nigella sativa</i>	Kalonji	Ranunculaceae	Herb	Seed	Immunity
28	<i>Ocimum tenuiflorum</i>	Tulsi	Lamiaceae	Shrub	Leaf	Cold/Cough
29	<i>Phyllanthus emblica</i>	Amla	Phyllanthaceae	Tree	Fruit	Vitamin C

30	<i>Phyllanthus niruri</i>	Bhumiamalaki	Phyllanthaceae	Herb	Whole Plant	Liver disorders
31	<i>Piper longum</i>	Pipli	Piperaceae	Climber	Fruit	Cough
32	<i>Pongamia tuberosa</i>	Karanj	Fabaceae	Tree	Seed/Leaf	Skin disease
33	<i>Psidium guajava</i>	Amrudh	Myrtaceae	Tree	Young Apical Leaves	Dysentery
34	<i>Pueraria tuberosa</i>	Vidarikand	Fabaceae	Climber	Tuber	Weakness
35	<i>Rauwolfia serpentina</i>	Sarpagandha	Apocynaceae	Shrub	Root	Hypertension
36	<i>Ricinus communis</i>	Erandi	Euphorbiaceae	Shrub	Seed	Constipation
37	<i>Schleichera oleosa</i>	Kusum	Sapindaceae	Tree	Seed	Skin disorders
38	<i>Semecarpus anacardium</i>	Bhilawa	Anacardiaceae	Tree	Fruit	Arthritis
39	<i>Shorea robusta</i>	Sal	Dipterocarpaceae	Tree	Resin	Wound healing
40	<i>Solanum xanthocarpum</i>	Kantakari	Solanaceae	Herb	Fruit/Root	Asthma
41	<i>Swertia chirayita</i>	Chiraita	Gentianaceae	Herb	Whole plant	Fever
42	<i>Syzygium cumini</i>	Jamun	Myrtaceae	Tree	Seed	Diabetes
43	<i>Terminalia arjuna</i>	Arjun	Combretaceae	Tree	Bark	Herat disease
44	<i>Terminalia bellira</i>	Bahera	Combretaceae	Tree	Fruit	Cough
45	<i>Terminalia chebula</i>	Harra	Combretaceae	Tree	Fruit	Digestion
46	<i>Tinospora cordifolia</i>	Giloy	Menispermaceae	Climber	Stem	Immunity
47	<i>Tribulus terrestris</i>	Gokhru	Zygophyllaceae	Herb	Fruit	Urinary Disorder
48	<i>Vachellia nilotica</i>	Babool	Fabaceae	Tree	Bark	Tooth Problems
49	<i>Withania somnifera</i>	Aswagandha	Solanaceae	Shrub	Root	Stress
50	<i>Xanthium strumarium</i>	Hagrakanta	Asteraceae	Herb	Fruit	Skin disease

Table 1: Documented Ethnomedicinal Plants Of Uttar Basar

DISCUSSION

The predominance of Fabaceae in the study area may be attributed to its ecological adaptability and abundance in tropical regions. The presence of bioactive compounds in many of its species might explain their frequent use in traditional medicine.

The dominance of herbs suggests a community preference for easily accessible and fast-growing plants for medicinal purposes. Their year-round availability makes them dependable for primary healthcare. The frequent use of leaves indicates a sustainable harvesting pattern, whereas extensive utilization of roots and bark could pose a potential threat to plant survival.

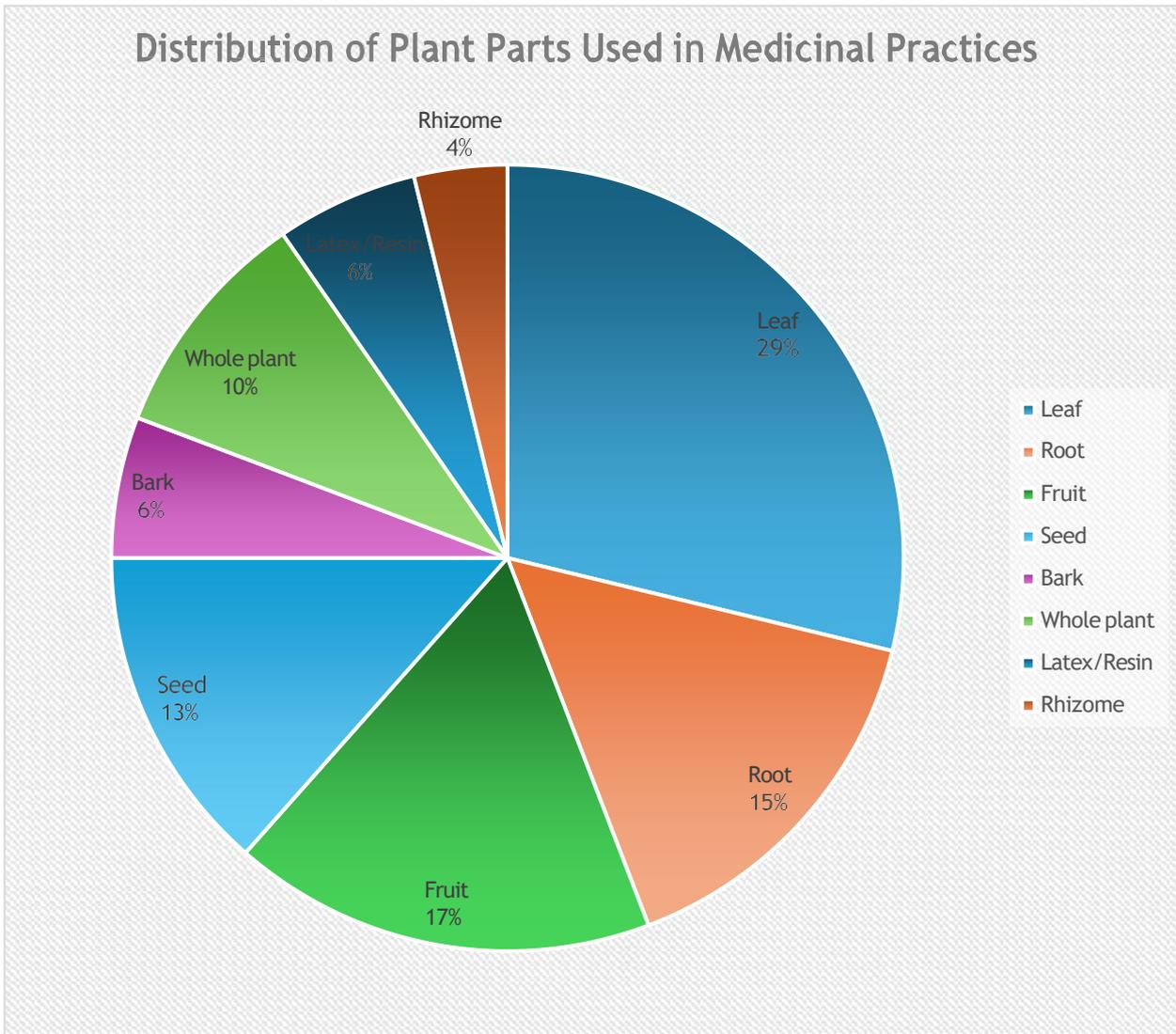


Fig: Pie Chart of Distribution Of Plant Parts Used In Medicinal Practices

The majority of recorded plants were used for treating common ailments such as fever, cough, dysentery, skin diseases, and digestive disorders. This reflects the reliance of local communities on traditional plant-based remedies for managing everyday health conditions and highlights the need for conservation of both medicinal plant diversity and indigenous knowledge.

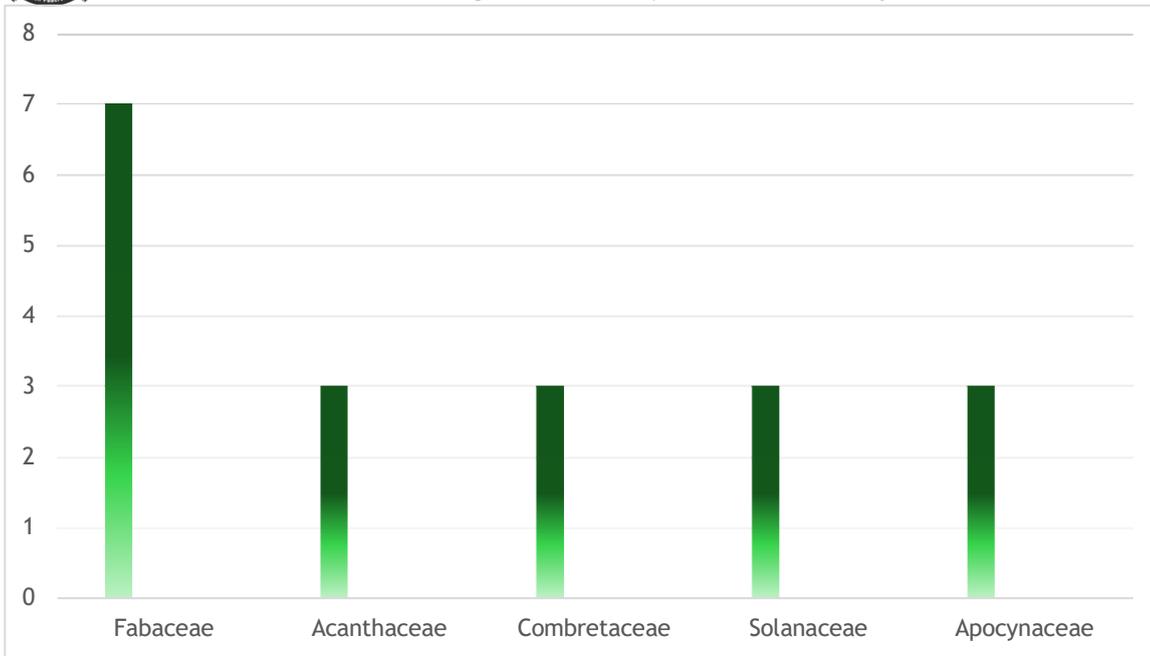


Fig: Dominated plant families recorded

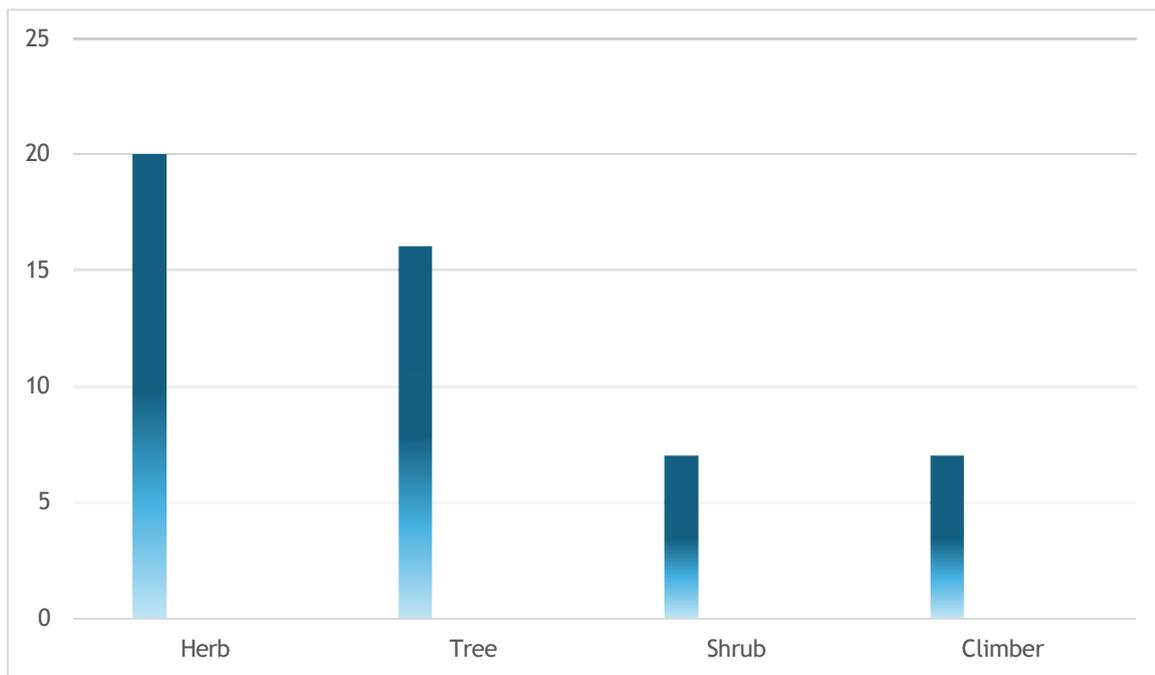


Fig: Habit-wise distribution of Ethnomedicinal Plants

CONCLUSION

The present study highlights the importance of the rich ethnomedicinal diversity of the Uttarbastar region and underscores the deep-rooted traditional knowledge maintained by local communities and traditional healers. However, it was observed that certain aspects of medicinal knowledge, particularly dosage and detailed preparation methods are selectively shared and often restricted within healer communities. This reflects the cultural value and protective nature associated with indigenous knowledge systems.

While such practices help preserve the identity and significance of traditional healers, limited intergenerational transfer and restricted documentation may pose a risk to the long-term survival of this knowledge. With increase modernization and changing socio-cultural dynamics, there is a possibility that valuable ethnomedicinal wisdom may gradually decline if not responsibly recorded and conserved.

Therefore, collaborative efforts involving local communities researchers, and conservation agencies are essential to ensure ethical documentation, knowledge preservation, and sustainable use of medicinal plants resources. Protecting both biodiversity and traditional wisdom is crucial for maintaining cultural heritage and supporting future healthcare research.

ACKNOWLEDGEMENT

The author sincerely acknowledges the local informants and traditional healers of the study area for generously sharing their valuable ethnomedicinal knowledge and time during the field survey. Their cooperative and willingness to preserve and communicate traditional wisdom made this study possible.

REFERENCES

1. J. Kaushik, AK Tiwari, KK Sen (2021). Role of Traditional Healers in community medicine among the tribal people of North Forest Range of Bastar Plateau, Chhattisgarh, India. *Turkish Journal Of Physiotherapy and Rehabilitation*. 32(3): 14-20.
2. SS Bargali, Sk Shrivastava (2002). Exploration of Valuable Medicinal Vegetal Wealth From The Tribal Belt Of Bastar District In Chhattisgarh. *The Botanica*. 52: 80-81
3. Pankaj K Sahu, Vaneer Masih, Sharmistha Gupta, Devki L. Sen, Anushree Tiwari (2024). Ethnomedicinal Plants Used In The Healthcare Systems Of Tribes Of Dantewada, Chhattisgarh, India. *American Journal Of Plant Sciences*. 5: 34-41
4. Ramesh Kumar Akhirwar C Diptesh Kumar Bhoi (2025). Ethnobotanical Secrets Of Baiga Tribe In Chhattisgarh Central India. *Scientific Reports*. 15
5. Sangeeta Bala, Ranju Hasini Sahoo (2024). Ethnobotany Of Medicinal Plants Of Bastar. *Journal of Studies in Dynamics and Change (JSDC)* Vol.12 No.3; 3-6
6. Deepak Kumar Soni and Sushil Kumar Shahi (2021). Ethnobotanical Data Documentation Of Keshkal, Chhattisgarh, India. *Journal of Traditional and Folk Practices*. Vol.9 No.1C2; 85- 91.